

EPA Form 2F-IV.C.

Structural and Nonstructural Control Measure

The Yorktown Terminal is designed and managed to prevent or minimize the release of contaminants to storm water. Both structural and nonstructural control measures are employed. A description of the terminal's controls and the treatment each of the terminal's storm water effluents receives is presented below.

Nonstructural controls include the following:

1. Stormwater Pollution Prevention Plan

This Plan is developed and is maintained in accordance with the requirements of the facility VPDES permit and VPDES Construction General Permit (VAR 10). It describes the systems, equipment, and practices in place to prevent stormwater contamination and control stormwater discharges.

2. Spill Prevention Control and Countermeasures (SPCC) / Oil Discharge Contingency Plan (ODCP) / Resource Conservation and Recovery Act (RCRA) Contingency Plan and Facility Response Plan.

The Terminal's SPCC / ODCP / RCRA Contingency Plan and Facility Response Plan describe equipment, operation and maintenance practices, and response procedures for preventing pollutants from oil spills from contaminating storm water runoff at the terminal.

3. Training Guides and Standard Operating Instructions

Training Guides and Standard Operating Instructions describe how terminal operations, mechanical, and pollution control equipment is to be operated to prevent pollutants associated with terminal operations from being released and contaminating storm water runoff.

4. Formal and Informal Training

Terminal operating staff receive formal refresher training annually. Relevant topics in the refresher training session include Storm Water Pollution Prevention, SPCC, and RCRA. Informal training may also be administered throughout the year. Training helps ensure that operating staff understands the importance of preventing storm water contamination.

5. Effluent Monitoring

Routine monitoring is performed on outfall 002 effluents, which contains storm water. Outfall 002 is monitored once a week, providing there is flow. Periodic acute toxicity tests as well as monitoring for priority pollutant metals and organics are also performed on outfall 002 effluent, consistent with the toxics monitoring provisions of the terminal's current VPDES permit. Please note that due to the intermittent nature of the 002 effluent, chronic toxicity testing is impractical. Chemical and biological monitoring of water effluents helps the terminal establish the effectiveness of its storm water management practices.

6. Inspections and Maintenance

The terminal is manned 24 hours a day, seven days a week. Operating staff inspects and maintains surveillance over terminal equipment as part of their duties. Maintenance staff or contractors make any repairs that might be required. Written records of some routine inspections, such as daily and weekly aboveground storage tank inspections conducted as part of the AST Pollution Prevention inspection program, are maintained. Periodic internal and external inspections of AST's are performed in accordance with DEQ AST regulations.

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Inspections and maintenance prevent equipment failures that can cause spills, which contribute to storm water contamination.

Structural measures to control pollutants in storm water at the terminal include the following:

1. Decant Tanks

While the facility was operating as a refinery there were four (5) Decant tanks available, Tank 909, Tank 910, Tank 911, Tank 912 and Tank 913. Now that the facility is a marketing terminal, Tank 911 has been dismantled, and Tanks 909, 910, and 913 are currently planned to be dismantled in 2015. Decant tanks receive tank bottoms or water draws and provide a means of (1) controlling air emissions from tank water draws/bottoms, and (2) achieving better separation between tank water draws/bottoms and free hydrocarbons associated with them. The decant tanks are located within containment, thereby preventing the contamination of storm water by dissolved or free hydrocarbons present in tank water bottoms. If capacity is available at the plant, water from the decant tanks is discharged into the sewer system. If capacity is not available, the water is transferred off-site for disposal. Oil recovered in the Decant tank(s) oil is either sold as product or transferred for offsite disposal.

2. Collection Systems

Contact Areas

Transfer and storage areas (e.g., the manifold, manifest rail unloading areas, and dock) as well as the former refinery process areas are equipped with containment systems which provide drainage to the sewer system. Containment pans are used during unloading operations at the crude oil rail unloading area. These containment systems prevent oily water or spills from contaminating soils or the terminal ditch system.

Sandblasting and Spray Painting Booth

A concrete pad with drainage to the belowground sewer system is provided to control dust, scale, and overspray from equipment sandblasting and spray painting operations.

Belowground Sewer System and Junction Boxes

This sewer system conveys contact storm water and storm water from certain oily areas to the Water Treatment Plant.

Thermal Relief Sumps

These sumps collect hydrocarbons from any piping relief valve releases. These sumps prevent the release of oil to the environment, where it might contaminate storm water or groundwater.

Currently, storm water from oily areas of the terminal is collected and transferred to HRSD for treatment. Plains plans to install a new wastewater treatment plant (WWTP), which will ultimately discharge through new Outfall 005. In the new WWTP, stormwater from oily areas will receive the following treatment.

1. Stormwater Retention Tank (SWRT) 24

Capacity 150,000 BBL or 6.34 million gallon each

The SWRT provides storm surge storage and flow equalization prior to the adsorption vessels and heavy slop tanks. The SWRT is equipped with oil skimmers.

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2. Slop Tanks 907 and 908

Existing Tanks 907 and 908 will be available to receive oil skimmed from the top of Tank 24 via a skimmer assembly installed internally on the Tank 24 floating roof.

3. Solids Separation (Plate Pack Filtration System)

A plate pack filtration system will receive flow from Tank 24 and will be utilized to remove solids before the stream is treated in the adsorption vessels.

Dewatering boxes will be used to reduce the water content of the filter system backwash waste by allowing the backwash solids to leach through a filtration mesh bottom of a roll-off tank. The filtrate will be collected for reprocessing in the WWTP, while the solids will be transferred off-site for disposal.

4. Organoclay Adsorption Vessels

Removal of dissolved oil, greases, and other high molecular weight/low solubility organics, such as TPH will be accomplished via organoclay adsorption.

5. Granular Activated Carbon (GAC) Adsorption Vessels

Granular Activated Carbon will be employed to achieve removal BTEX and other soluble organic compounds as well as some heavy metals.

6. Wastewater Receiving Tank 54

This tank is located downstream of the Organoclay Adsorption Vessels and Granular Activated Carbon Adsorption Vessels. This tank, which receives treated wastewater, acts as a process control sampling point and wet well for the WWTP Discharge and Backwash Pumps.

Water from Tank 54 is pumped to the Effluent Pump Station, which is equipped with continuous flow totalizer and a continuous recording pH meter. Compliance sampling will be performed at this location.

Storm water from non-oily areas of the terminal, which is ultimately discharged through outfall 002, receives the following treatment:

Storm Water Settling Basin

The storm water settling basin is a quiescent lagoon with a surface area of 5.2 acres. The settling basin is fed by the surface ditch collection system that extends throughout the non-oily areas of the terminal. Both the ditch system and the settling basin are equipped with haybasket filters. The settling basin is also equipped with three sections of oil spill containment boom. This equipment is employed to capture oil and/or filter out contaminants, which might reach the terminal ditch system in the event of spills. Any spills that occur in the terminal ditch system are contained with earthen dams or absorbent blankets and recovered with vacuum trucks to prevent contamination of storm water.